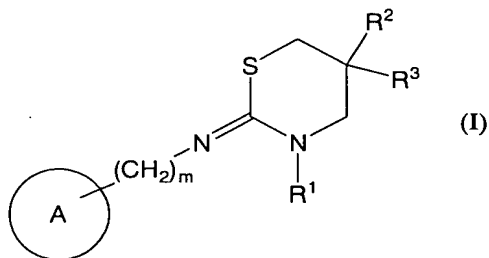


## CLAIMS

1. An inhibitor for inflammatory cell infiltration in the respiratory tract, an inhibitor for hyperirritability in the respiratory tract, a muciparous inhibitor, or a bronchodilator which contains as an active ingredient a compound represented by the formula (I):



wherein  $R^1$  is the group represented by the formula:  $-C(=Z)-W-R^4$  wherein Z is an oxygen atom or a sulfur atom; W is an oxygen atom or a sulfur atom;  $R^4$  is optionally substituted alkyl, optionally substituted alkenyl, or optionally substituted alkynyl;

$R^2$  and  $R^3$  are independently optionally substituted alkyl or optionally substituted cycloalkyl; or

$R^2$  and  $R^3$  are taken together to form optionally substituted alkylene which may contain a heteroatom(s);

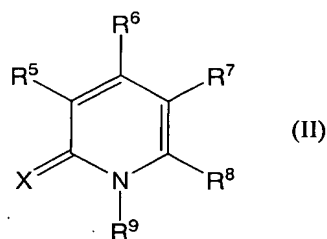
m is an integer of 0 to 2;

A is optionally substituted aryl or optionally substituted heteroaryl.

2. An inhibitor for inflammatory cell infiltration in the respiratory tract, an inhibitor for hyperirritability in the respiratory tract, a muciparous inhibitor, or a bronchodilator according to claim 1 wherein  $R^1$  is the group represented by the formula:  $-C(=Z)-W-R^4$  wherein Z is an oxygen atom or a sulfur atom; W is a sulfur atom;  $R^4$  is optionally substituted alkyl or alkenyl;  $R^2$  and  $R^3$  are independently alkyl; or  $R^2$  and  $R^3$  taken together may form optionally substituted alkylene; m is 0; A is aryl optionally substituted with one or two substituent(s) selected from the group consisting of alkyl, haloalkyl, hydroxy, alkoxy, haloalkoxy, alkylthio, and haloalkylthio.

3. An inhibitor for inflammatory cell infiltration in the respiratory tract, an inhibitor for hyperirritability in the respiratory tract, a muciparous inhibitor, or a

bronchodilator which contains as an active ingredient a compound represented by the formula (II):



wherein R<sup>5</sup> is the group represented by the formula: -Y<sup>1</sup>-Y<sup>2</sup>-Y<sup>3</sup>-R<sup>a</sup> wherein Y<sup>1</sup> and Y<sup>3</sup> are each independently a bond or optionally substituted alkylene; Y<sup>2</sup> is a bond, -O-, -O-SO<sub>2</sub>-, -NR<sup>b</sup>-, -NR<sup>b</sup>-C(=O)-, -NR<sup>b</sup>-SO<sub>2</sub>-, -NR<sup>b</sup>-C(=O)-O-, -NR<sup>b</sup>-C(=O)-NR<sup>b</sup>-, -NR<sup>b</sup>-C(=S)-NR<sup>b</sup>-, -S-, -C(=O)-O-, or -C(=O)-NR<sup>b</sup>-; R<sup>a</sup> is optionally substituted alkyl, optionally substituted alkenyl, optionally substituted alkynyl, an optionally substituted carbocyclic group, an optionally substituted heterocyclic group, or acyl; R<sup>b</sup> is each independently a hydrogen atom, optionally substituted alkyl, or acyl;

R<sup>6</sup> is a hydrogen atom, optionally substituted alkyl, optionally substituted alkenyl, optionally substituted alkynyl, a halogen atom, or alkoxy;

R<sup>7</sup> and R<sup>8</sup> are each independently a hydrogen atom, optionally substituted alkyl, optionally substituted alkenyl, optionally substituted alkynyl, a halogen atom, optionally substituted phenyl, or optionally substituted carbamoyl; or

R<sup>7</sup> and R<sup>8</sup> are taken together with the adjacent carbon atoms to form a 5 to 8 membered ring which may contain a heteroatom(s) and /or an unsaturated bond(s);

R<sup>9</sup> is a hydrogen atom, optionally substituted alkyl which may contain a heteroatom(s) and /or an unsaturated bond(s), or the group represented by the formula -Y<sup>6</sup>-R<sup>e</sup> wherein Y<sup>6</sup> is a bond, optionally substituted alkylene, alkenylene, alkynylene, -O-, -S-, -SO-, or -SO<sub>2</sub>-; R<sup>e</sup> is an optionally substituted carbocyclic group or an optionally substituted heterocyclic group;

X is an oxygen atom or a sulfur atom;

4. An inhibitor for inflammatory cell infiltration in the respiratory tract, an inhibitor for hyperirritability in the respiratory tract, a muciparous inhibitor, or a bronchodilator according to claim 3 wherein R<sup>5</sup> is the group represented by the formula: -Y<sup>1</sup>-Y<sup>2</sup>-Y<sup>3</sup>-R<sup>a</sup> wherein Y<sup>1</sup> is a bond; Y<sup>2</sup> is -C(=O)-NH-; Y<sup>3</sup> is a bond or optionally

substituted alkylene; R<sup>a</sup> is an optionally substituted carbocyclic group; R<sup>6</sup> is a hydrogen atom; R<sup>7</sup> is alkyl, a halogen atom, or optionally substituted phenyl; R<sup>8</sup> is a hydrogen atom or alkyl; or R<sup>7</sup> and R<sup>8</sup> are taken together with the adjacent carbon atoms to form a 8 membered ring which may contain an unsaturated bond(s); R<sup>9</sup> is optionally substituted C3 or more alkyl which may contain a heteroatom(s) and /or an unsaturated bond(s), or the group represented by the formula -Y<sup>6</sup>-R<sup>e</sup> wherein Y<sup>6</sup> is a bond or optionally substituted alkylene; R<sup>e</sup> is an optionally substituted carbocyclic group.

5            5.            Use of a compounds represented by the formula (I) in claim 1 or (II) in claim 3 for preparation of a pharmaceutical composition for preventing and/or treating an  
10        inflammatory cell infiltration in the respiratory tract, a hyperirritability in the respiratory tract, a muciparous, or a bronchoconstrictive action.

6.            A method for preventing and/or treating a mammal, including a human, to alleviate the pathological effects of an inflammatory cell infiltration in the respiratory tract, a hyperirritability in the respiratory tract, a muciparous, or a bronchoconstrictive  
15        action wherein the method comprises administration to said mammal of a compound represented by the formula (I) in claim 1 or (II) in claim 3, in a pharmaceutically effective amount.